

**BACCALAURÉAT GENERAL  
EPREUVE SPECIFIQUE DES SECTIONS EUROPENNES  
MATHÉMATIQUES – ANGLAIS**

**Corrigé du sujet 19**

**I. Explain what the text deals with and comment on it.**

**II. Exercises:**

1. First situation : we roll a die once

- a.  $1/6$
- b.  $1-(5/6)$

2. Second situation: we roll a die four times

- a.  $(5/6)^4$
- b.  $1-(5/6)^4=0,5177$
- c. Yes it is interesting as the probability is greater than 0.5

3. Third situation: we roll two dice once.

$35/63$

4. Fourth situation: we roll two dice twenty four times

- a.  $(35/36)^{24}$ .
- b.  $1-(35/36)^{24}=0,4914$
- c. No, it is not interesting as the probability is less than 0.5

5. Chevallier de Méré was wrong, the probability to obtain at least one ace by rolling 4 times a die is not the same as the probability to obtain at least one pair of aces by throwing 24 times two dice.

In the second situation, the probability to win is less than 0.5, this is why he lost by playing this game.